The claims are re-printed as follows for the examiner's convenience.

1. (previously presented) A translation loop modulator for a transmission circuit in a communication system having a first mode of operation at a first frequency and a second mode of operation at a second frequency, said translation loop modulator comprising:

input modulation means for receiving at least one input signal that is representative of information to be modulated, for receiving a feedback signal, and for producing an intermediate modulated signal responsive to said input signal and said feedback signal;

comparator means for receiving said intermediate modulated signal and a reference signal having a frequency of F_{LO}, and for producing an output transmission signal having a frequency F_{OUT} responsive to said intermediate modulated signal, wherein said comparator means includes a first frequency divider unit for providing a divide by *m* function and a second frequency divider unit for providing a divide by *n* function such that $F_{LO} = F_{OUT} / (1 + m/n)$ in said first mode of operation and $F_{LO} = F_{OUT} / (1 - m/n)$ in said second mode of operation; and

feedback circuitry coupled to said output transmission signal, coupled to said reference signal and coupled to said input modulation means, said feedback circuitry for producing said feedback signal responsive to said output transmission signal and said reference signal.

2. (original) A translation loop modulator as claimed in claim 1 further comprising a reference loop modulator for producing said reference signal.

3. (original) A translation loop modulator as claimed in claim 2, wherein said reference loop modulator includes a fractional *n* synthesizer.

4. (canceled).

5. (previously presented) A translation loop modulator as claimed in claim 1, wherein an input port of said second frequency divider unit is coupled to said reference signal, and an output port of said second frequency divider unit is coupled to a phase comparator device.

6. (canceled).

7. (previously presented) A translation loop modulator as claimed in claim 1, wherein an input port of said first frequency divider unit is coupled to said intermediate modulated signal, and an output port of said first frequency divider unit is coupled to a phase comparator device.

8. (original) A translation loop modulator as claimed in claim 1, wherein said feedback circuitry includes a mixer device including a first input port coupled to said output transmission signal, a second input port coupled to said reference signal, and an output port coupled to said feedback signal.

9. (original) A translation loop modulator as claimed in claim 8, wherein said reference signal is directly connected to said mixer device.

10. (previously presented) A translation loop modulator for a transmission circuit in a communication system having a first mode of operation at a first frequency and a second mode of operation at a second frequency, said translation loop modulator comprising:

quadrature modulation means for receiving at least one input signal that is representative of information to be modulated, for receiving a feedback signal, and for producing an quadrature modulated signal responsive to said input signal and said feedback signal;

phase comparator means for receiving said quadrature modulated signal and a reference

signal having a frequency F_{LO}, and for producing a phase comparator signal responsive to said quadrature modulated signal and said reference signal, said phase comparator means including a first frequency divider unit for providing a divide by *m* function and a second frequency divider unit for providing a divide by *n* function;

oscillator means for receiving said phase comparator signal, and for producing an output transmission signal responsive to said phase comparator signal, said output transmission signal having a frequency F_{OUT} wherein $F_{LO} = F_{OUT} / (1 + m/n)$ in said first mode of operation and $F_{LO} = F_{OUT} / (1 - m/n)$ in said second mode of operation; and

feedback circuitry coupled to said output transmission signal, coupled to said reference signal and coupled to said quadrature modulation means, said feedback circuitry for producing said feedback signal responsive to said output transmission signal and said reference signal.

11. (original) A translation loop modulator as claimed in claim 10 further comprising a reference loop modulator for producing said reference signal.

12. (original) A translation loop modulator as claimed in claim 11, wherein said reference loop modulator includes a fractional *n* synthesizer.

13. (canceled).

14. (previously presented) A translation loop modulator as claimed in claim 10, wherein an input port of said second frequency divider unit is coupled to said reference signal, and an output port of said second frequency divider unit is coupled to a phase comparator device.

15. (canceled).

16. (previously presented) A translation loop modulator as claimed in claim 10, wherein an input port of said first frequency divider unit is coupled to said intermediate modulated signal, and an output port of said first frequency divider unit is coupled to a phase comparator device.

17. (original) A translation loop modulator as claimed in claim 10, wherein said feedback circuitry includes a mixer device including a first input port coupled to said output transmission signal, a second input port coupled to said reference signal, and an output port coupled to said feedback signal.

18. (previously presented) A translation loop modulator as claimed in claim 17, wherein said reference signal is directly connected to said mixer device.

19. (previously presented) A translation loop modulator for a transmission circuit in a communication system having a first mode of operation at a first frequency and a second mode of operation at a second frequency, said translation loop modulator comprising:

quadrature modulation means for receiving at least one input signal that is representative of information to be modulated, for receiving a feedback signal, and for producing an quadrature modulated signal responsive to said input signal and said feedback signal;

first frequency divider means for receiving said quadrature modulated signal, and for producing a first frequency divided signal responsive to said quadrature modulated signal such that said first frequency divider means provides a divide by *m* function;

second frequency divider means for receiving a reference signal having a frequency F_{LO}, and for producing a second frequency divided signal responsive to said reference signal such that

said second frequency divider means provides a divide by n function;

phase comparator means for receiving said first frequency divided signal and said second frequency divided signal, and for producing a phase comparator signal responsive to said first and second frequency divided signals;

oscillator means for receiving said phase comparator signal, and for producing an output transmission signal having a frequency F_{OUT} responsive to said phase comparator signal such that $F_{LO} = F_{OUT} / (1 + m/n)$ in said first mode of operation and $F_{LO} = F_{OUT} / (1 - m/n)$ in said second mode of operation; and

feedback circuitry coupled to said output transmission signal, coupled to said reference signal and coupled to said quadrature modulation means, said feedback circuitry for producing said feedback signal responsive to said output transmission signal and said reference signal.

20. (original) A translation loop modulator as claimed in claim 19 further comprising a reference loop modulator for producing said reference signal.

21. (previously presented) A translation loop modulator as claimed in claim 19, wherein said first mode of operation is at about 1800 MHz.

22. (previously added) A translation loop modulator as claimed in claim 19, wherein said second mode of operation is at about 900 MHz.